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Vertical Integration in Agriculture

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VERTICAL INTEGRATION

in agriculture

This booklet will:

- Describe the nature and extent of integration in agriculture
- Describe the conditions conducive to integration
- Indicate who is likely to integrate and where it is most likely to take place
- Summarize some of the consequences of integration to farm people

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VERTICAL INTEGRATION IN AGRICULTURE

The Nature and Extent of "Integration"

Integration activities are not the headline news they were five years ago. However, development and experimentation in the integrating of farm and nonfarm activities has continued, but such activities are now accepted as a part of agricultural change.

Coordination May Take Many Forms

Almost everyone is agreed that substantial efficiencies can be gained by improved coordination. The real question is in what form and to what degree will this coordination become effective:

1. Will it come about through retaining the present independent organization of supply, production and marketing firms and improving its operation through greater understanding of their mutual needs?
2. Will it come about through large efficient farmers retaining essential control over management functions, but who contract in advance for supplies on the one hand and for sales on the other?
3. Will it come about through governmental action such as the Federal marketing orders in the dairy business?
4. Will it come about through cooperative organizations assuming the coordinating control such as the Sunkist Growers, Incorporated, of California?
5. Will it come about by farm supply and marketing firms taking over part of the financing and managerial functions of farms through "package contracts" such as in the broiler business.
6. Will it come about through a single firm obtaining ownership of farm supply, production and marketing facilities?

Integration as treated in this report refers largely to the form of organization developed in 4, 5 and 6 above. As such, it is one type - but only one among other potential arrangements for achieving coordination. Even under integration, substantial variations in its degree and form are likely.

Kinds of Arrangements

What kinds of arrangements between farmers and integrating agencies are being used? They range all the way from instances where the integrator fully owns the production facility and simply hires the labor on the one extreme to a very loose financing arrangement with a minimum of farm production direction on the other. In the broiler industry, which has been in the fore front of this development, the most common arrangements include: (a) extensive financing by the integrator of both fixed production facilities and current production expenses. (b) extensive supervision and control by the integrator of much of the production and marketing processes and decisions, and (c) payments to the grower in the form of a fixed amount per pound, the rate often varying according to a prearranged scale of performance in feed conversion and mortality. On the other hand most hog contracts involve only small limitations in the managerial freedom of the farm producer in return for more extensive financing from the integrator. Apparently only a few arrangements involve sharing market risks or guaranteeing dollar returns. In egg contracts, issues of product quality, market outlets and practices are often involved.

Vegetable, popcorn and nursery crops have been highly integrated for some time. Ninety percent of the vegetables produced for canning and freezing are grown under contract to processors or by processors.

Contracts may specify any one or more of the following: dates of planting, varieties, cultural and spraying practices, dates of harvest, schedule of prices and dates of payment. Processors usually supply seeds or plants, technical and financial assistance and pickers. Almost all popcorn produced has been grown under contract with processors for several years. The contract usually specifies acreage of each variety, quality factors and guaranteed minimum price. Seed is furnished by the processor.

In each integration procedure, we note a similar process. Integration is in essence a "package deal" in which each party surrenders something in return for something else. The farmer, in varying degrees, surrenders his right to make complete management decisions and to operate as he pleases. He often surrenders actual ownership of the product. In return he may receive favorable or extensive credit and financing, some security of market outlet, technical assistance, and sometimes an outright income guarantee or protection from market price risks. The integrator gains the right to help direct the production process more to his liking, and

an added or more secure volume of business. In return he must assume part of the costs of management of the enterprise and often additional amounts of market risk.

Discussion Focused on Integration of Farm Unit

Only the nature and impact of integration on the farm unit is discussed here. There is no attempt to compare integration with other systems of obtaining better coordination of farm production, processing or distribution. The discussion in this publication attempts to:

1. Describe the nature and extent of integration in agriculture.
2. Describe the conditions conducive to integration.
3. Indicate who is likely to integrate and where it is most likely to take place.
4. Summarize some of the consequences of such integration to farm people.

INTEGRATION DEFINED

The Farm Is an Involved Business

To see clearly the rearrangement which occurs in the relationship between the farmer-producer and the integrator it must be kept in mind that both the farm unit and the farm operator really represent a composite of several activities. The farm unit, in most cases, is made up of:

1. Several enterprises; for example, grain growing, hog production and egg production.

2. Each enterprise is made up of three basic activities:

- a. The acquisition of materials necessary for production such as fertilizer, seed, feed, machinery, equipment, breeding stock, etc.

- b. The direct production activities such as the planting, cultivating and harvesting of grain; the feeding, and care of livestock, and

- c. The marketing activities such as the choice of markets and selling activities.

The farmer-operator himself represents a composite of several activities such as:

1. A laborer.
2. A manager and decision-maker, and
3. An owner, furnishing land, equipment, and money for operation.

The farmer's income then is basically a function of these three activities. As such the farmer's income has in it all of the risk and uncertainty involved in producing and owning goods to be sold on a future market.

Such a multiple view of the farm and the operator is important to keep in mind. If the farmer had other enterprises than the one being integrated, these enterprises and their operations would not be directly affected. Integration then does not deal with the farm and the farmer as a whole, but rather with a particular commodity or enterprise of the farm. The following discussion, therefore, is on a commodity basis. Only if the farm unit and its operator were completely specialized in one commodity would the total unit and the total activities of its operator be directly involved.

Integration

The key idea in integration is the extension of the effective area of control by a centralized management. The arrangement involves a transfer of all or part of the management decision-making to the integra-

tor in return for a reduction of price-and-market risk. Such a definition of integration permits many variations in its actual development. All of the management and ownership responsibilities of the farm enterprise may be transferred or only special parts of management may be involved. Also, integration may tie together all of the forms and processes involved in the supplier-producer-marketing chain or it may tie together any two or more of these firms or processes within the total chain. Any of the firms may be the integrator--the farmer, the supplier, the processor, the retailers. Such integration may be achieved through outright ownership or contractual arrangement.

Some activities which are not considered as effective integration are:

1. Financing arrangements wherein no title, management or selling considerations are involved. This would include such financial arrangements as standard loans, open-account credit operations, etc.
2. Selling or buying contracts in which no management or product handling considerations are involved. These would include such arrangements as a contract to buy this year's fertilizer from a certain dealer at a certain price, or arrangements to sell hogs on specification to a given dealer at prices specified in advance.

CONDITIONS FAVORABLE TO INTEGRATION

The major motive for integrators is that of increased profits. Not all firms that have integrated have realized these profits; therefore, the following list is offered as a guideline for those considering integration. Affirmative answers to these questions mean a favorable climate exists for some agencies to attempt to integrate a farm enterprise operation with some nonfarm

activity. There are apparently several activating conditions. One, two or all of these may be present for a particular enterprise.

1. Is there a potential for the application of standardized and specialized management? Scientific advances have tended to make farm production more of a

science and less of an art. As standardization in work routines is feasible it becomes possible to specialize tasks. Planning becomes the most critical management function and much of management then is amenable to centralization and specialization. Obviously, this transferability of management is a key and limiting question. If the production technology of an enterprise has not become standardized to the point where substantial portions of management can be successfully removed from the individual farmer-producer, then the essence of integration--the transfer of management--cannot take place.

2. Is there a real possibility that the farm product can be produced in a specified form and quality and/or on a pre-determined schedule of supply? Many farm products are currently variable in quality and uncertain in supply. This is contrary to effective functioning of our modern food processing concerns and our mass merchandising institution--the supermarket. If by using prescribed technology and management practices those products can be standardized in form, package, quality, time and amount of delivery, mass processors and merchandisers would find some changes advantageous.

3. Is the enterprise facing a situation of rapid and/or continuous major changes in technology? This may require more complicated equipment and management know-how. The industry may know or believe that new technology is available which is currently unused. Integrators might see opportunity for profit either by controlling the speed of adoption of new developments or by trying to retain the benefits of such new developments for themselves. Such a situation would also make the farmer-producer quite receptive since he recognizes that better ways are available but lacks the necessary ability or resources to put them into effect.

4. Is there a great potential for the profitable increased use of some production resource? In farm enterprises this usually takes the form of potentials for increased equipment, operating capital and/or increased managerial and technical know-how. New developments frequently require substantial additional capital investment. Scientific developments may be so complicated that the management ability of the average farmer is not enough. This is often associated closely with the situation described in (3) above.

5. Is there a possibility of reducing market risks? For example, the farmer represents a market, and therefore selling costs, to a feed dealer. A processor must buy his farm products either from the farmer or other market agencies with the resultant uncertainties and costs. The farmer himself may be faced with uncertain outlet and price situations. Closer control and coordination over the farm enterprise may permit the reduction of these buying and selling costs. Obviously, this situation exists to some degree for all commodities. However, when the risks are especially severe and/or are accompanied by some of the other favorable conditions, this encourages integration.

6. Is there a special market opportunity for a new or different product? The farmers' risks are high when he attempts to market a large output of a product new to his area. To guarantee a market, the merchandiser would, of course, want to see profit opportunity in the venture. Farm enterprises not typical of an area may come into production in this manner. Integration in these circumstances, however, would only occur if many of the above questions could also be answered affirmatively.

7. Is there a chance to increase control over a larger share of the supply and improve price-bargaining power? The closer control of a large portion of the

supply may result in price advantages to the controller. This may occur because of the ability either to secure the supply cheaper from farmer-producers to to sell it at higher prices to consumers. This

cannot be denied as a possible motive for integration. However, if decided advantages were realized because of such control, the integrator might be violating antimonopoly laws.

WHAT FARM ENTERPRISES MAY BE LIKELY CANDIDATES FOR INTEGRATION?

In looking at the field of "likely candidates" it is important to keep three facts in mind:

1. Successful widespread integration will not spring into being overnight. The nature of successful arrangements will be worked out by trial and error.

2. Even though the climate for integration might be favorable, if the producers and the industry are already organized and operating under other reasonably satisfactory arrangements, integration may not be forthcoming.

3. Integration might not be feasible for some parts of an enterprise, but would be for others. Remember, a farm enterprise is made up of three major activities. Conditions may favor complete or only partial integrations of these activities.

How these questions can be answered for individual commodities, of course, is highly subjective. The table on page 7 gives our evaluation as to the probable current answers for our most important products

INTEGRATION POTENTIALITIES

A commodity by commodity summary of integration potentialities follows:

Broilers: in 1958, in the U. S. it was estimated that at least 90 percent of production was under the control of a contracting integrator. Development here will continue in the refinement of contracts. This integration has proceeded to the point where it has been investigated for possible monopoly tendencies.

Turkeys: Estimates in 1958 were that about 50 percent of the turkeys were under some sort of integrated arrangement. Increasing attempts at integration of the turkey enterprise will be made--probably similar to broilers.

Laying flocks and egg production: It was estimated that about 15-20 percent of the eggs produced were integrated in 1958. Potentialities of standardized management, product control and the

rapidity of technological change make increased integration efforts very likely.

Processing vegetables: Integration is now practiced for selected commodities and in some areas. A continued expansion of integrated units seems probable.

Hogs: Scattered experimental integration attempts are now underway in hog feeding. Production of meat type hogs under special feeding programs is being considered. New technologies in feeding practices may be on the horizon, which could give increased incentive for integration efforts by processors and feed companies. Growth of integrated operations will be slow and spotty.

Beef: Experimental efforts in fattening cattle under contract now exist. In addition some packers conduct their own.

Factors favoring integration attempts	Enterprises								
	Broilers	Turkeys	Eggs	Processing vegetables	Hog feeding	Beef feeding	Speciality crops	Grain crops	Milk
Is there a potential for application of standardized and specialized management?	++	++	++	+	+	+	+	+	+
Is there a real possibility that the farm product can be produced in a specified form and quality and/or on a pre- determined schedule of supply?	++	++	++	++	+	+	++	-	+
Is the enterprise facing rapid and/or continuous major changes in technology?	++	++	++	+	++	++	+	+	+
Is there a great potential for the profitable increased use of some production resource? (capital, labor)	++	+	+	-	+	+	+	-	+
Is there a possibility of reducing market risks?	++	++	++	++	+	+	++	+	+
Is there a chance to increase control over a larger share of the supply and improve price-bargaining power?	+	-	-	+	-	-	+	-	-

++ factor now exists in a substantial degree; probably a powerful factor favoring integration attempts.

+ factor either now exists or substantial development appears on the horizon; permits integration attempts.

- factor does not exist in great enough degree to encourage integration attempts in itself.

feeding operations. Many producers would like to reduce their market risks. Though it does not now appear that extensive integration will develop immediately, experimental attempts will bear watching.

Dairy herds and milk: Some completely integrated operations now exist. However, the dairy industry already is highly organized and, to a considerable extent, operates under milk control orders. Because of such current organization no major new integration development seems imminent.

Specialty crops: These make a highly diverse picture. In some areas, produc-

tion is already highly organized and controlled under legal market order provisions. Like dairying, these are not easy areas for new integration efforts. On the other hand, new and highly specialized commodities are and will be produced under close integration by the processors and manufacturers.

Feed and food grains: Little or no attempt has been made to integrate in this area. Apparently management science has not yet developed to the extent wherein the special weather and other problems of an individual farm can be handled on a mass basis. Production of a prearranged quantity of amount is still unreliable. No extensive attempts seem likely here in the immediate future.

FACTORS INFLUENCING WHERE INTEGRATION

ATTEMPTS MAY BE INITIATED

Assuming that conditions are favorable for integration of some farm enterprises, what are some of the factors that will influence where integration attempts will be initiated and grow?

1. Integration will be attempted where producer efforts can be obtained by the integrators at lowest costs. Integrators generally will be supplying management supervision, financial and technical help, and some insurance against market risks. It seems likely that they will attempt to find grower-cooperatives where these things are needed or desired most. Often these may be in areas of low income and plentiful labor and where production is currently not highly specialized nor highly efficient. This often will mean the integration efforts will be used in developing completely new areas of production. Integrators often find that inexperienced but potentially capable producers adapt more easily to the supervision and control necessary for substantial integration. This is also a

method in which servicing and marketing facilities can be introduced almost instantaneously with the volume necessary for efficient operations. However, the integration contract mechanism may also find considerable acceptance among producers in already established areas. This will be especially true if the enterprise is under technical and cost pressure to change and expand. Producers in the process of developing large enterprises may want the income insurance of the contract mechanism. In recent years, substantial contract production activity has been found scattered throughout even the more specialized and commercial areas of production.

2. Integration will occur first in those areas where the resources of large firms can be used. Integration requires that the integrator have enough resources and capacity to undertake a sizeable extension of his work. Small concerns, working alone, will not have the access to either management or financial resources neces-

sary to successfully undertake the added risk of being an integrator. This requirement, however, will not necessarily restrict the areas of potential integration since many of the important potential integrator firms are regional or national in their activities and may often work in conjunction with other small firms in the area.

3. Where specialty products are involved, integration will occur in scattered locations

largely surrounding the integrator's handling or processing facilities. The motivating urge will be to secure nearby, dependable supply in quantities and qualities of desired amounts. Under certain circumstances it may be more economical to move the sources of supply closer to the processing or handling facility than to establish a new facility location.

WHO WILL DO THE INTEGRATION?

Who will be the integrator? As mentioned earlier, the integrator undertakes the organization, coordination and control of a product when he sees the potentialities for additional earnings for himself. Specifically, these additional earnings may take the form of:

1. A more attractive final consumer price because of a better product, a different product; or, additional market control giving an opportunity to extract higher prices for the same product.

2. A more advantageous price paid the producer for the raw product. This occurs because of the advantages control gives in bargaining with suppliers or because of location in areas where low-cost labor and/or supplies are available.

3. Lower costs of operation due:

a. To easier standardization and quality control of the product or reduction of waste, spoilage, etc.

b. To a general simplification of the marketing process and reduction in the number of hands through which the product passes.

c. To a reduction in the risks and other costs arising from highly variable and uncertain supplies.

d. To a possible reduction in the selling expenses of another product of the integrator, such as feed, because of a closer control over the buyers of the product.

The list of potential integrators would include: farmers and their organizations, food retailers, food wholesalers, processors, buying agencies, and major suppliers to the industry such as feed dealers, hatcheries, equipment manufacturers, etc. Over the long run it would seem that retailers themselves may be among the most important integrators. The change in the last decade at the retail level to very large retail units--the supermarkets--and their combination into regional or national chains makes retail participation in the rest of the marketing process much more feasible. However, in the immediate future it seems more likely that the initial action to integrate the farm production phase will come from those agencies more closely associated with the farm and its raw products, such as processors, buying agencies and suppliers. Of course, the initiator may attempt to tie together all of the pertinent firms in handling the product. Currently, very few examples of complete farm-to-consumer integrations exist.

Farmers themselves, or their organizations, probably will become integrators only under pressure. This pressure may appear from three sources:

1. The necessity to obtain a set-up which gives legal sanction of marketing orders and agreements in order to improve their price position.

2. The pressure to establish "counter-bargaining power" when integration by nonfarm agencies has become a major factor in the industry and seems to be exploiting the farmer-producer. The stage is set for exploitation of the producer if there are few suppliers, few markets and few contractors or integrators.

3. The desire of cooperative organizations to maintain their market positions. If integration becomes an important feature of the market in an area, cooperatives may have to become involved to stay in business. Otherwise they may end up serving only the smaller or less progressive farm units, which may result in lower volumes and higher costs of cooperative operations.

CONCLUSIONS

Integration efforts of various kinds will increase in the future. Many additional attempts will be made by many firms to integrate specific farm enterprises. Some of these will fail--and some will be successful. Some commodities will receive more attention from integrators than others. These commodities will receive more attention from integrators in some areas than others. On the other hand, we do not expect complete farm-to-consumer integration of all production to occur--or even to be attempted soon.

The economic factors of size of business, efficiency of operation and choice of enterprise which influence profits in farming are important in the operation of a farm business whether its enterprises are integrated or nonintegrated. Integration does not make a small, inefficient farm business profitable. Management remains a scarce resource. Whoever can supply this management most effectively and economically will retain or gain control.

Contractual coordination of farm production, however, offers enough potential advantages to initiators of successful arrangements that most farmers will be continually faced with the necessity of

evaluating the strengths and weaknesses of a contract proposal. Many will be sound economically; some will not. Such situations should not be decided from a biased viewpoint of "all good" or "all evil." Contracts are often full of details which will take careful and full consideration.

Even partial integration of portions of production will tend to have some important consequences. Some of these could be:

1. For producers who have the basic abilities for efficient production, but have been handicapped by lack of financing, poor equipment, limited access to technical information, etc., integration will offer a way to overcome these handicaps. Integration may also aid beginners with these basic abilities enter into a satisfactory size enterprise. In a multi-enterprise farm unit, integration of one of the enterprises may permit the farmer to better manage his other enterprises which are not directly involved.

2. For producers who are fundamentally "below average" even if properly financed and helped, integration will simply speed up the day when they will be forced to find more advantageous employment.

Some of these farmers may look to integration as a chance for survival, and this may temporarily help. However, if the individual cannot grow in efficiency and business volume, he will probably realize little in the long run. Actually, he may sustain a loss from his investment of time and other resources in the effort.

3. Successful integration will generally speed up the various changes which are now underway. This will be true even if integration is effected for only part of the producers and production. Some developments that will be hastened are: the tendency for more standardized operations and products; the pressure to specialize and increase the size of enterprise, and the necessity to continually adopt new and improved technology.

4. Integration will probably result in increased geographic concentration of production. New areas of important production may actually develop. The competition of one region with another will be intensified and the "weeding out" process of the higher cost areas which normally occurs over long periods will be speeded up.

5. If integration of a particular enterprise develops to a point where it covers a substantial majority of the production in a limited area, then those producers who have chosen to remain independent will find it

increasingly difficult to obtain the services of suppliers and/or market agencies at favorable prices in the immediate area. Heavy integration developments in a given area will reduce the facilities available to serve independent producers.

6. As long as producers are permitted to choose among several integrators in a given area, competitive conditions may remain as vigorous as ever. However, if a few integrators obtain dominance then all the potential evils of monopoly may exist. In such circumstances the supervision of government or the development of strong counter-bargaining agencies may be necessary. Though integration need not reduce competition in an area, it may. This problem area will become of increasing concern.

7. We have pointed out the wide variation which exists in method and completeness of the integration attempted. There is growing evidence that initial attempts at contract coordination usually involve only a minimum of management centralization and price or income guarantees. However, the evolution seems to be toward tighter and more complete arrangements if the program is to be workable at all. In fact, in the broiler industry, there seems to be some tendency toward more "fully owned" operations as compared with the standard contractual arrangement of the past. This may well be a trend of the future.